



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,110	02/13/2006	Achim Adam	710100-22	5504

7590 01/05/2007
Robert L Stearns
Dickinson Wright
38525 Woodward Avenue
Bloomfield Hills, MI 48304-2970

EXAMINER

ZIMMERMAN, JOHN J

ART UNIT	PAPER NUMBER
----------	--------------

1775

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/568,110

Applicant(s)

ADAM ET AL.

Examiner

John J. Zimmerman

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/13/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20060213</u> | 6) <input type="checkbox"/> Other: ____ |

FIRST OFFICE ACTION

Preliminary Amendments

1. The "PRELIMINARY AMENDMENT" received February 13, 2006 has been entered.

Claims 1-8 are pending in this application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d). Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

Information Disclosure Statement

3. The "INFORMATION DISCLOSURE STATEMENT BY APPLICANT" received February 13, 2006 has been considered. An initialed form PTO-1449 is enclosed with this First Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1775

5. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 6 is indefinite since it requires that the nickel layer "is about 4 - 6 μm " (line 3). The term "about 4" appears to include the number "4" and other thicknesses that would be "about 4". Claim 1, however, requires that the thickness of the nickel layer "being greater than 4 μm " (last line). The limitations of claim 6 should not conflict with the limitations of independent claim 1.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1775

8. Claims 1-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending U.S. Patent Application No. 10/568,109 in view of Kawachi (U.S. 2003/048961). Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim the same composite multilayer material, having a backing layer, a bearing layer of copper alloy or aluminum alloy, a nickel intermediate layer having a thickness of greater than 4 μm and an overlay layer containing 0-20 wt.% copper and/or silver. The claims differ mainly in that the overlay layer further contains bismuth in the copending application and further contains tin in the pending application. Kawachi, however, clearly shows that Sn, Pb and/or Bi alloys are considered obvious alternative alloy bases for overlay layers in the bearing art (e.g. see paragraphs [0001]-[0003]). In view of Kawachi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use any one of Sn, Pb and/or Bi base alloys for a overlay layer since these are all shown to be considered obvious alternative alloy bases for overlay layers in the bearing art. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1775

10. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawachi (U.S. 2004/0241489) in view of Kawachi (U.S. 2003/0048961).

11. Kawachi '489 discloses a bearing having a steel backing layer, a copper alloy or aluminum alloy bearing layer, an intermediate layer and an overlay (e.g. see Figure 2; paragraph [0017]). The intermediate layer can be nickel (e.g. paragraph [0013]; Table 1) and the overlay can be a bismuth alloy containing 0.1-10 wt.% copper and 0.5-10 wt.% tin (e.g. see paragraph [0008]). The overlay can have a thickness of 3-15 μm (e.g. see paragraph [0020]) and the bearing is exposed to elevated temperatures that would inherently cause some interdiffusion between the layers (e.g. Table 2; paragraph [0034]). Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Although it is noted that the overlay of Kawachi '489 is bismuth based, Kawachi's alloy contains tin and therefore is a tin alloy (although not a tin-based alloy). In addition, the pending

Art Unit: 1775

claims use the term "comprises" and the term "comprises" leaves the claims open for the inclusion of unspecified ingredients even in major amounts, *Ex parte Davis, et al.*, 80 USPQ 448 (PTO Bd. App. 1948). While the copper and/or silver ranges in the overlay of Kawachi '489 may not be coextensive with the claimed ranges, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 USPQ 549. Likewise, while the thickness ranges of the overlay of Kawachi '489 may not be coextensive with the claimed overlay thickness ranges, the ranges overlap and it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to practice the thickness ranges of Kawachi '489 over his entire disclosed range. Kawachi '489 may differ from the pending claims in that while Kawachi '489 does disclose the use of a nickel intermediate layer between the bearing layer and the overlay, Kawachi '489 may not disclose the thickness of this layer. On this issue, however, Kawachi '961 clearly shows that the optimum thickness range for the nickel intermediate layer is between 0.5-8 μm (e.g. see paragraph [0017]). In view of Kawachi '961, it would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture the nickel intermediate layer of Kawachi '489 over a thickness range of 0.5-8 μm because Kawachi '961 discloses that intermediate nickel layers in this thickness range enhances bonding of the multilayer bearing.

12. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (U.S. Patent 4,832,801).

13. Mori discloses a bearing having a steel backing layer, a bearing layer, a nickel intermediate layer and an overlay (e.g. see claim 8). The overlay can be an alloy containing up to 8 wt.% tin and 0.1-6 wt.% copper in a thickness of 5-100 microns (e.g. see claim 8). Mori discloses bearing compositions (e.g. see claim 14) and a thickness range of 1-5 microns for the nickel layer (e.g. see claim 9). The bearing is heat treated to cause diffusion between the layers (e.g. see claim 8). Although it is noted that the overlay of Mori is lead based, Mori's alloy contains tin and therefore is a tin alloy (although not a tin-based alloy). In addition, the pending claims use the term "comprises" and the term "comprises" leaves the claims open for the inclusion of unspecified ingredients even in major amounts, *Ex parte Davis, et al.*, 80 USPQ 448 (PTO Bd. App. 1948). While the copper range in the overlay of Mori may not be coextensive with the claimed ranges, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 USPQ 549. Likewise, while the thickness ranges of the overlay and nickel layer of Mori may not be coextensive with the claimed thickness ranges, the ranges overlap and it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to practice the thickness ranges of Mori over his entire disclosed range.

14. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roemer (U.S. Patent 3,950,141).

15. Roemer discloses a bearing having a steel backing layer, a lead-bronze bearing layer, a nickel intermediate layer, a further nickel-tin layer and an overlay (e.g. see paragraph spanning columns 3 and 4). The nickel-tin layer has a thickness of between 0.006-0.008 mm (e.g. see column 4, lines 4-9) and the overlay can be an alloy containing 10 wt.% tin and 3 wt.% copper in a thickness of 0.006 mm (e.g. see column 4, lines 12-16). The bearing is exposed to elevated temperatures that would inherently cause some interdiffusion between the layers (e.g. column 4, lines 17-24). Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Although it is noted that the overlay of Roemer is lead based, Roemer's alloy contains tin and therefore is a tin alloy (although not a tin-based alloy). In addition, the pending claims use the term "comprises" and the term "comprises" leaves the claims open for the inclusion of unspecified ingredients even in major amounts, *Ex parte Davis, et al.*, 80 USPQ 448 (PTO Bd. App. 1948). While the copper and/or

Art Unit: 1775

silver ranges in the overlay of Roemer may not be coextensive with the claimed ranges, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 USPQ 549. Likewise, while the thickness ranges of the overlay of Roemer may not be coextensive with the claimed overlay thickness ranges, the ranges overlap and it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to practice the thickness ranges of Roemer over his entire disclosed range.

16. Claims 1 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (U.S. Patent 5,328,772).

17. Tanaka discloses a bearing having a steel backing layer, a Cu-Pb bearing layer, a nickel intermediate layer and an overlay (e.g. see claim 1). The nickel layer has a thickness of up to 5 μm (e.g. see column 5, lines 24-31) and the overlay can be an alloy containing tin (e.g. see Table 2). The bearing is exposed to elevated temperatures that would inherently cause some interdiffusion between the layers (e.g. column 6, lines 33-68). Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on *prima facie* obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark

Art Unit: 1775

Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Although it is noted that the overlay of Tanaka is lead based Tanaka 's alloy contains tin and therefore is a tin alloy (although not a tin-based alloy). In addition, the pending claims use the term "comprises" and the term "comprises" leaves the claims open for the inclusion of unspecified ingredients even in major amounts, *Ex parte Davis, et al.*, 80 USPQ 448 (PTO Bd. App. 1948). While the thickness range of the nickel barrier of Tanaka may not be coextensive with the claimed nickel thickness ranges, the ranges overlap and it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to practice the thickness ranges of Tanaka over his entire disclosed range. In addition, while the thickness range of the overlay of Tanaka may not be specified, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the thickness of the overlay of Tanaka for best performance in order to create a commercially viable bearing.

18. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (U.S. Patent 3,658,488).

19. Brown discloses that a standard bearing has a steel backing layer, a copper-lead bearing layer, a nickel intermediate layer and an overlay (e.g. see column 4, lines 21-45). Brown

Art Unit: 1775

discloses that a nickel electroplate of between 0.1-0.5 mils thickness can be used (e.g. claim 6) and also discloses that the overlay can have a thickness of between 0.2-5 mils (e.g. see claim 1). The overlay can be an alloy containing 8 wt.% tin and 2 wt.% copper (e.g. see column 7, lines 21-22). Although it is noted that the overlay of Brown is lead based, Brown's alloy contains tin and therefore is a tin alloy (although not a tin-based alloy). In addition, the pending claims use the term "comprises" and the term "comprises" leaves the claims open for the inclusion of unspecified ingredients even in major amounts, *Ex parte Davis, et al.*, 80 USPQ 448 (PTO Bd. App. 1948). While the copper range in the overlay of Brown may not be coextensive with the claimed ranges, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 USPQ 549. Likewise, while the thickness ranges of the overlay of Brown may not be coextensive with the claimed overlay thickness ranges, the ranges overlap and it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to practice the thickness ranges of Brown over his entire disclosed range.

20. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huhn (U.S. 2001/0016267).

21. Huhn discloses a bearing having a backing layer, a lead-bronze bearing layer, a nickel intermediate layer, a further nickel-tin layer and an overlay (e.g. see claim 1). The backing layer

Art Unit: 1775

can be steel (e.g. see paragraph [0037]). The first nickel intermediate layer has a thickness of between 1 to 4 μm (e.g. see paragraph [0030]) and the nickel-tin second intermediate layer has a thickness of between 2 and 7 μm (e.g. see paragraph [0029]) and the overlay can have a thickness of 5 to 25 μm (e.g. see paragraph [0028])). The bearing alloy can be copper-aluminum, copper-tin, copper-tin-lead, etc. . . (e.g. see paragraph [0030]). The bearing is exposed to elevated temperatures that would inherently cause some interdiffusion between the layers (e.g. see paragraph [0047]). Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324. The overlay of Huhn is a tin based alloy that contains 5 to 48 % of tin-copper particles (e.g. see paragraphs [0019] and [0023]). While the overall copper range in the tin based overlay of Huhn may not be coextensive with the claimed range, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie*

Art Unit: 1775

case of obviousness, see *In re Malagari*, 182 USPQ 549. Likewise, while the thickness range of the overlay of Huhn may not be coextensive with all the claimed overlay thickness ranges, the ranges overlap and it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to practice the thickness ranges of Huhn over his entire disclosed range. In addition, while the thickness range of the nickel first intermediate layer of Huhn may be 1 to 4 μm and the applicant claims a thickness range of "more than 4 μm ", the values of "4 μm " and "more than 4 μm " are so close that *prima facie* one of ordinary skill in the art would not expect them to be patentably distinct. A review of the applicant's disclosure shows no factual data patentably distinguishing a nickel layer thickness value of "4 μm " from "more than 4 μm ". In any event, the nickel-tin second intermediate layer of Huhn clearly falls in the applicant's claimed range.


Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art of record serves to further establish the level of ordinary skill in the art at the time the invention was made.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1775

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John J. Zimmerman
Primary Examiner
Art Unit 1775

jjz
January 2, 2007